

# SEMISOM



# Electric submersible pumps SEMISOM for sewage water



## APPLICATION

To expel rain water, convey waste and sewage water from septic tanks

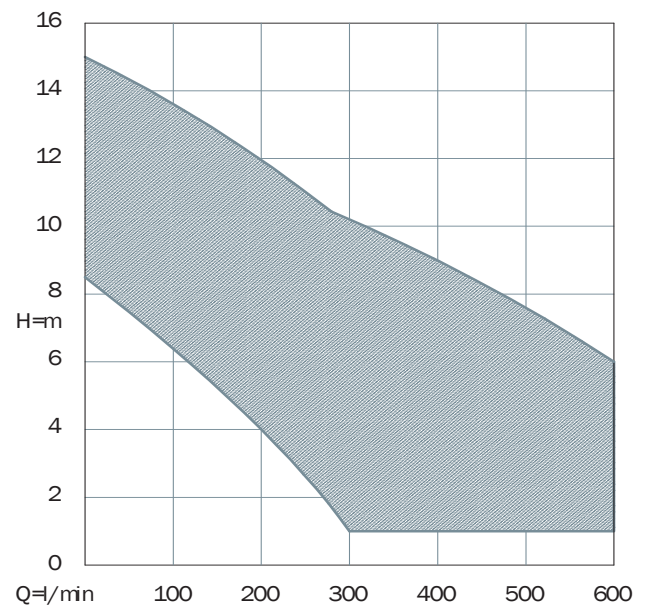
To pump liquids containing solids (vortex or double channel impeller) and filaments (double channel impeller)

To pump sewage keeping its biological process unchanged (Semisom 504 4 poles)

## CHARACTERISTICS

IP rating	IP68
Duty (versions 1~230V - 3~400V)	Continuous S1
Duty (versions 24V DC)	Limited use S2 (60 minutes)
Maximum immersion depth (m)	20
Maximum number of starts per hour	40
Maximum temperature of the liquid pumped versions 1~230V - 3~400V (°C)	50
Maximum temperature of the liquid pumped versions 24V DC (°C)	35
PH of the liquid pumped	6 - 10
Density of the liquid pumped (kg/dm <sup>3</sup> )	<1,1
Suitable for inverter drive	Three-phase versions only

## APPLICATION RANGE



## CONSTRUCTION

1~230V - 3~400V versions: coolant filled, asynchronous, rewindable electric AC motor with short circuit rotor. Insulation Class F. Windings with phase insulators to protect the motor from power peaks, as a guarantee of a highly-trustworthy product.

24V DC versions: with permanent magnets dry electric DC motor. Insulation Class F

Resin-insulated cable kit to prevent penetration of water inside the motor

Shafts machined on ball bearings and mechanical seals location

Double mechanical seal with oil-chamber in-between


## MATERIALS


Tie rods, handle, motor casing, bolts and nuts	Stainless Steel AISI304
Shaft	Stainless Steel AISI420B
Cover and volute	Mechanical cast iron EN GJL-250
Impeller	Mechanical cast iron EN GJL-200
Mechanical seal	Silicon carbide and alumina
Packing Ring	NBR rubber
Elastomers	NBR rubber
Cable	Neoprene H07RN8-F; 24V DC: Twin Batt

# Electric submersible pumps SEMISOM





for sewage water





## PERFORMANCE DATA

Vortex Impeller 	P2		1~230 V		3~400 V	24 V DC	Poles	DNM	Solid Passage ø	Q	Flow											
	hp	kW	Max	µF	Max	Max					m³/h	0	6	9	12	15	18	21	24	27	30	36
			A		A	A						l/min	0	100	150	200	250	300	350	400	450	500
SEMISOM 265	0,75	0,55	4,2	12,5	1,7	28	2	1"½	40	H (m)	8,2	6	5	4	2,7	1,5						
SEMISOM 290	0,75	0,55	4,2	12,5	1,7		2	2"	50		8,5	7	6,5	5,5	4,5	3,5	2,5	1				
SEMISOM 390	1	0,75	5,5	16	2,3		2	2"	50		10	8,5	8	7	6	5	4	3	2	1		
NEW SEMISOM 504	1	0,75	5,6	16	2,3		4	2"	50		6,2	6	5,8	5,7	5,3	4,9	4,6	4,2	3,7	3,1		
SEMISOM 490	1,5	1,1	7,3	20	2,7		2	2"	50		11	9,5	9	8	7,5	6,5	5,5	5	4	3	1	
SEMISOM 590	2	1,5	10,5	31,5	4,1		2	2"	50		14,5	13	12,5	11,5	11	10	9	8	7,5	6,5	5	
SEMISOM 650	2	1,5	10,2	25	3,8		2	2"½	65		9	8	7,5	7	6,5	6	5,5	4,9	4,4	3,8	2,7	
NEW SEMISOM 650 H	2	1,5	12,2	25	4,4		2	2"½	65		12,7	11,6	11	10,5	10	9,4	8,8	8,1	7,4	6,8	6	

Channel impeller 	P2		1~230 V		3~400 V	24 V DC	Poles	DNM	Solid Passage ø	Q	Flow											
	hp	kW	Max	µF	Max	Max					m³/h	0	6	9	12	15	18	21	24	27	30	36
			A		A	A						l/min	0	100	150	200	250	300	350	400	450	500
SEMISOM 262	0,75	0,55	4	12,5	1,7	28	2	2"	32	H (m)	13	11	10	9	7,5	6,5	5	4	3			
SEMISOM 635	1,5	1,1	6	20	2,7		2	2"	32		16,5	14,5	13,5	12,5	11,5	10,5	9	8	6,5	5,5	1,5	

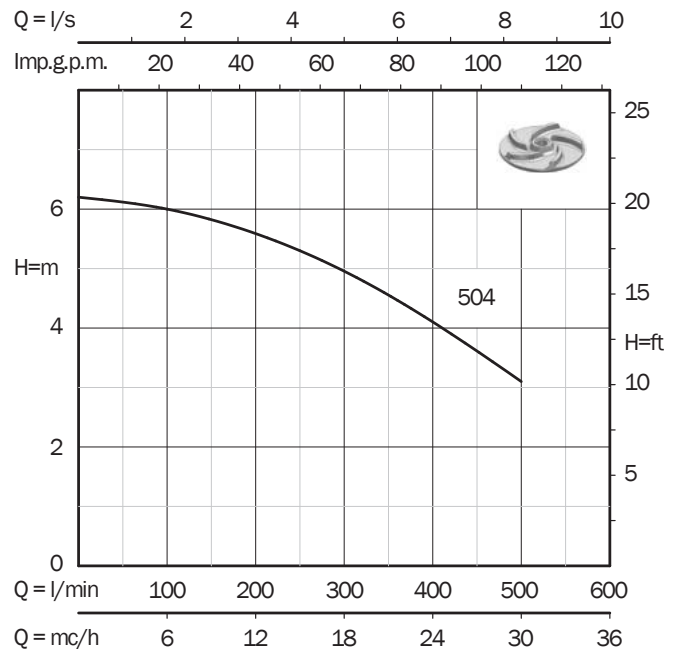
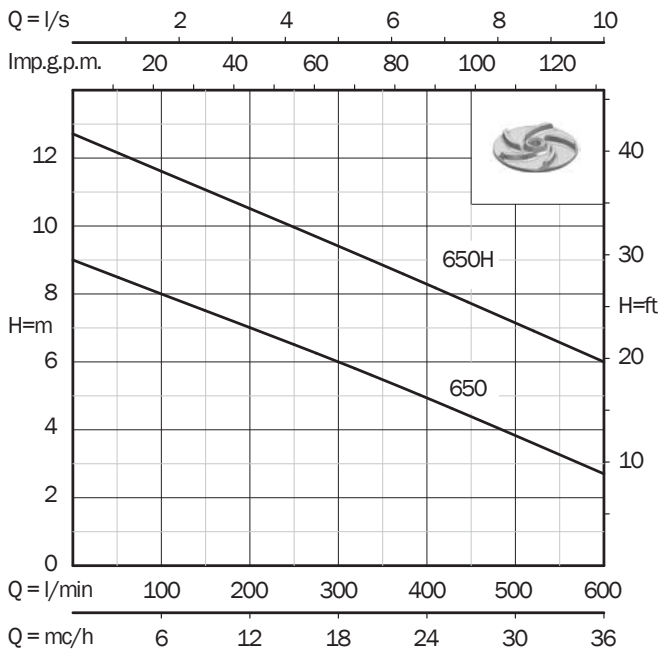
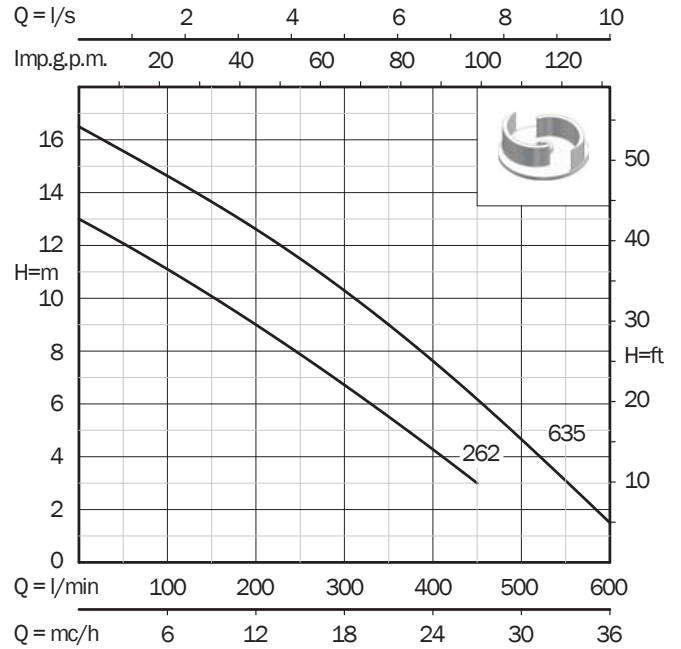
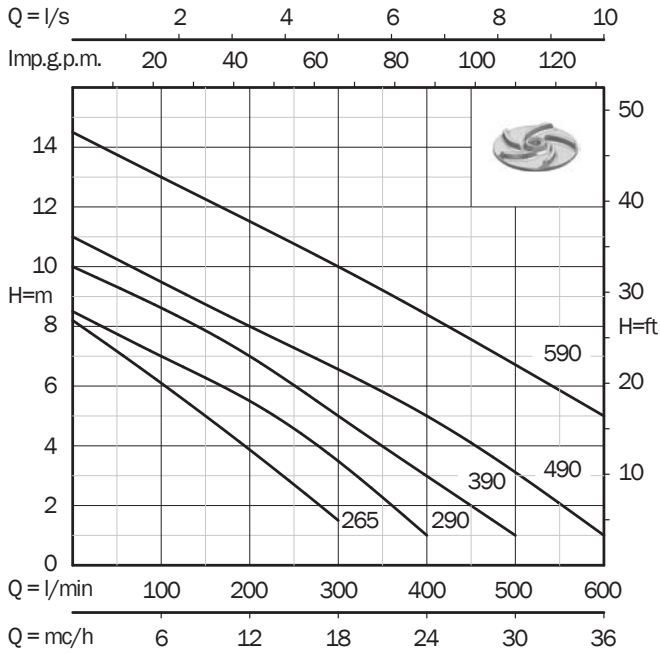
## AVAILABLE VERSIONS

Vortex Impeller 	Vertical discharge 	Horizontal discharge 	Rail 	Single-phase	Single-phase + Float switch	Single-phase + float. and Internal capacitor	Three-phase	Three-phase + float	24 V
	SERIES								
SEMISOM 265	•			VS	VS	VA	VS	VA	VS
SEMISOM 290		•		HS	HS	HA	HS		
SEMISOM 390	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		
NEW SEMISOM 504		•		HS	HS		HS		
SEMISOM 490	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		
SEMISOM 590		•		HS	HS		HS		
SEMISOM 650			•	RS	RS		RS		
NEW SEMISOM 650 H			•	RS	RS		RS		

Channel impeller 	Vertical discharge 	Horizontal discharge 	Rail 	Single-phase	Single-phase + Float switch	Single-phase + float. and Internal capacitor	Three-phase	Three-phase + float	24 V
	SERIES								
SEMISOM 262	•			VS	VS	VA	VS	VA	VS
SEMISOM 635	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		

V = Vertical discharge; H = Horizontal discharge; R = Rail  
S = Standard version; A = Automatic version


## PERFORMANCE CURVES



# Electric submersible pumps SEMISOM series VA

for sewage water, vertical discharge

## PERFORMANCE DATA 2 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	A	l/min	m			A	B	C	D	
SEMISOM 265 VA	SMZ265+GGH/3	230 V	1-phase+float	0,75	0,55	4,2	30 - 150 - 300	7,5 - 5 - 1,5	40	1"½	454	50	230	162	16,5
	STZ265+GGH/2	400 V	3-phase+float			1,7									18,3
SEMISOM 390 VA	SMZ390+G/3	230 V	1-phase+float	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	502	65	235	162	17,7
	STZ390+G/2	400 V	3-phase+float			2,3									19,5
SEMISOM 490 VA	SMZ490+G/3	230 V	1-phase+float	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	527	65	235	162	19,5
	STZ490+G/2	400 V	3-phase+float			2,7									21,3

### SUPPLIED WITH

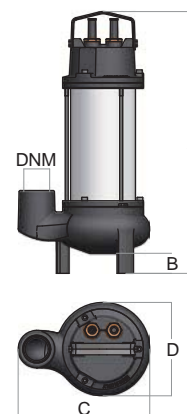
Power cable:  
 • 5 meters for single-phase versions  
 • 10 meters for three-phase versions




Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber (single-phase versions)



Mini-contactor put in a separate, easy-accessible chamber (three-phase versions)



## PERFORMANCE DATA 2 poles 60 Hz

Channel impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight
				hp	kW	A	l/min	m			A	B	C	D	kg
<b>SEMISOM 262 VA</b>	SMZ262+G/3	230 V	1-phase+float	0,75	0,55	4	30 - 200 - 450	12 - 9 - 3	32	2"	450	60	250	172	19,1
	STZ262+G/2	400 V	3-phase+float			1,7									20,9
<b>SEMISOM 635 VA</b>	SMZ635+G/3	230 V	1-phase+float	1,5	1,1	6	30 - 350 - 600	16 - 9 - 1,5	32	2"	484	60	250	172	21,3
	STZ635+G/2	400 V	3-phase+float			2,7									23,1

### SUPPLIED WITH

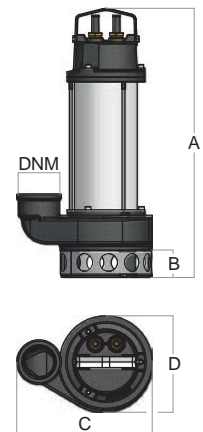
Power cable:  
 • 5 meters for single-phase versions  
 • 10 meters for three-phase versions



Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber (single-phase versions)




Mini-contactor put in a separate, easy-accessible chamber (three-phase versions)




# Electric submersible pumps SEMISOM series VS

for sewage water, vertical discharge

## PERFORMANCE DATA 2 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 265 VS	SMZ265GH	230 V	1-phase	0,75	0,55	4,2	30 - 150 - 300	7,5 - 5 - 1,5	40	1"½	400	50	230	162	14
	SMZ265+GGH	230 V	1-phase+float												14,2
	STZ265GH	400 V	3-phase												1,7
SEMISOM 390 VS	SMZ390	230 V	1-phase	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	450	65	235	162	15,7
	SMZ390+G	230 V	1-phase+float												15,9
	STZ390	400 V	3-phase												2,3
SEMISOM 490 VS	SMZ490	230 V	1-phase	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	474	65	235	162	16,5
	SMZ490+G	230 V	1-phase+float												16,7
	STZ490	400 V	3-phase												2,7

## PERFORMANCE DATA - 24 V DC

Vortex Impeller 	Code	Version		P2		P1 kW	Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW			l/min	m			A	B	C	D	
SEMISOM 265 VS	SF265	24 V	DC	0,75	0,55	0,67	28	30 - 150 - 300	8 - 5,5 - 1	40	1"½	400	50	230	162	13

P1: Max. absorbed power - P2: Nominal power of the motor

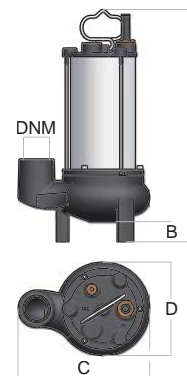


### SUPPLIED WITH

5 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)




## ACCESSORIES


Code	Description
02076100	QDC electromechanical direct starter (24 V DC versions)



### PERFORMANCE DATA 2 poles 60 Hz

Channel impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	A	l/min	m			A	B	C	D	
<b>SEMISOM 262 VS</b>	SMZ262	230 V	1-phase	0,75	0,55	4	30 - 200 - 450	12 - 9 - 3	32	2"	400	60	250	172	16,7
	SMZ262+G	230 V	1-phase+float												16,9
	STZ262	400 V	3-phase												1,7
<b>SEMISOM 635 VS</b>	SMZ635	230 V	1-phase	1,5	1,1	6	30 - 350 - 600	16 - 9 - 1,5	32	2"	440	60	250	172	19,3
	SMZ635+G	230 V	1-phase+float												19,5
	STZ635	400 V	3-phase												2,7

### PERFORMANCE DATA - 24 V DC

Channel impeller 	Code	Version		P2		P1	Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	kW	A	l/min	m			A	B	C	D	
<b>SEMISOM 262 VS</b>	SF262	24 V	DC	0,75	0,55	0,67	28	30 - 200 - 400	10 - 7 - 1	32	2"	400	60	250	172	15,3

P1: Max. absorbed power - P2: Nominal power of the motor

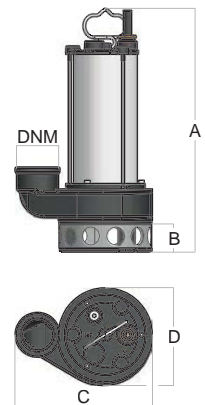


#### SUPPLIED WITH

5 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)



### ACCESSORIES

Code	Description
02076100	QDC electromechanical direct starter (24 V DC versions)






# Electric submersible pumps SEMISOM series HA

for sewage water, horizontal discharge

## PERFORMANCE DATA 2 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	A	l/min	m			A	B	C	D	
SEMISOM 290 HA	SMZ290+G0/3	230 V	1-phase+float	0,75	0,55	4,2	100 - 200 - 400	7 - 5,5 - 1	50	2"	492	65	198	162	16,4
SEMISOM 390 HA	SMZ390+G0/3	230 V	1-phase+float	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	502	65	198	162	17,5
SEMISOM 490 HA	SMZ490+G0/3	230 V	1-phase+float	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	526	65	198	162	18,8

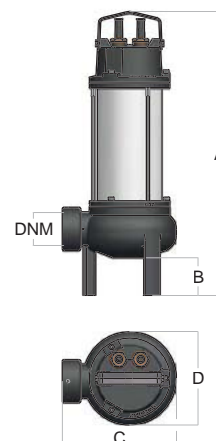


### SUPPLIED WITH

10 meters power cable

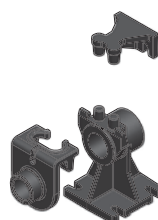


Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber




## ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" (¾" guide poles are not included)



## PERFORMANCE DATA 2 poles 60 Hz

Channel impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
<b>SEMISOM 635 HA</b>	SMZ635+G0/3	230 V	1-phase+float	1,5	1,1	6	30 - 350 - 600	16 - 9 - 1,5	32	2"	484	60	220	172	22

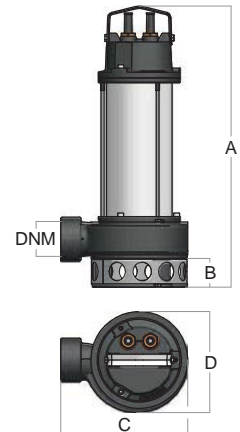


### SUPPLIED WITH

10 meters power cable

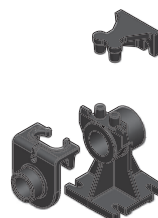


Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber



## ACCESSORIES


Code	Description
04105043	Guide rail kit DNM 2" ( $\frac{3}{4}$ " guide poles are not included)



# Electric submersible pumps SEMISOM series HS

for sewage water, horizontal discharge

## PERFORMANCE DATA 2 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	A	l/min	m			A	B	C	D	
SEMISOM 290 HS	SMZ2900	230 V	1-phase	0,75	0,55	4,2	100 - 200 - 400	7 - 5,5 - 1	50	2"	440	65	198	162	14,4
	SMZ290+GO	230 V	1-phase+float												14,6
	STZ2900	400 V	3-phase												1,7
SEMISOM 390 HS	SMZ3900	230 V	1-phase	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	450	65	198	162	15,7
	SMZ390+GO	230 V	1-phase+float												15,9
	STZ3900	400 V	3-phase												2,3
SEMISOM 490 HS	SMZ4900	230 V	1-phase	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	474	65	198	162	16,5
	SMZ490+GO	230 V	1-phase+float												16,7
	STZ4900	400 V	3-phase												2,7
SEMISOM 590 HS	SMZ5900	230 V	1-phase	2	1,5	10,5	100 - 300 - 600	13 - 10 - 5	50	2"	496	65	198	162	18,2
	SMZ590+GO	230 V	1-phase+float												18,4
	STZ5900	400 V	3-phase												4,1

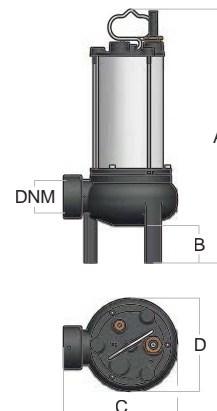
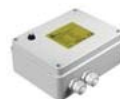


### SUPPLIED WITH

10 meters power cable

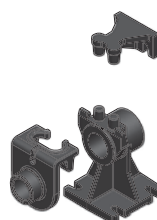


Control box containing capacitor and amperometric protection (single-phase versions)




## ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" (¾" guide poles are not included)



## PERFORMANCE DATA 4 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
<b>NEW</b> SEMISOM 504 HS	SMZ5040	230 V	1-phase	1	0,75	5,6	100 - 250 - 500	6 - 5,3 - 3,1	50	2"	498	50	225	171	20,2
	SMZ504+G0	230 V	1-phase+float												20,4
	STZ5040	400 V	3-phase												2,3

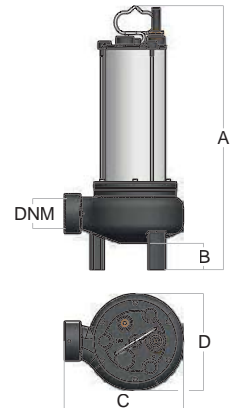


### SUPPLIED WITH

10 meters power cable

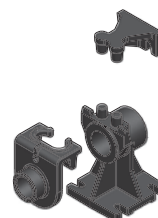


Control box containing capacitor  
and amperometric protection  
(single-phase versions)



## ACCESSORIES


Code	Description
04105043	Guide rail kit DNM 2" (¾" guide poles are not included)



# Electric submersible pumps SEMISOM series HS

for sewage water, horizontal discharge

## PERFORMANCE DATA 2 poles 60 Hz

Channel impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 635 HS	SMZ6350	230 V	1-phase	1,5	1,1	6	30 - 350 - 600	16 - 9 - 1,5	32	2"	440	60	220	172	20,1
	SMZ635+G0	230 V	1-phase+float												20,3
	STZ6350	400 V	3-phase												2,7

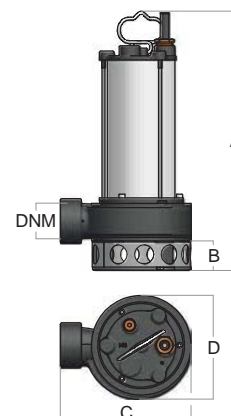


### SUPPLIED WITH

10 meters power cable

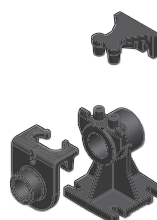


Control box containing capacitor and amperometric protection (single-phase versions)

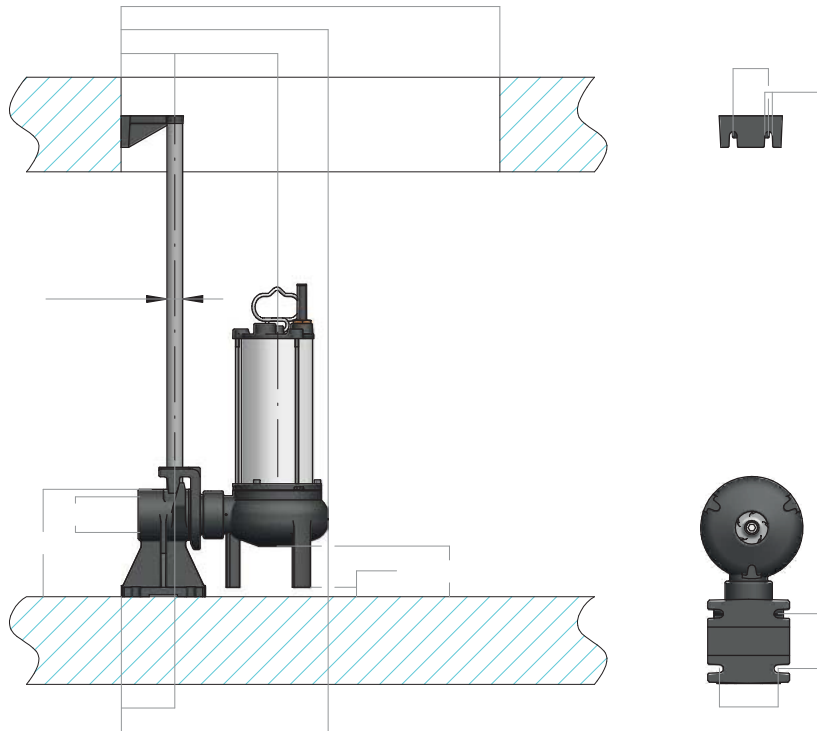


## ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" ( $\frac{3}{4}$ " guide poles are not included)



**ILLUSTRATION OF AN INSTALLATION WITH GUIDE RAIL KIT**




To be installed on	Dimensions (mm)			
	E	F	G	H
SEMISOM HS - HA	328	163	15	80
SEMISOM 635 HS - HA	348	180	47	97

# Electric submersible pumps SEMISOM series RS

for sewage water with rail

## PERFORMANCE DATA 2 poles 60 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 650 RS	SMZ650	230 V	1-phase	2	1,5	10,2	100 - 300 - 600	8 - 6 - 2,7	65	2"1/2	445	91	334	195	23
	SMZ650+G	230 V	1-phase+float												23,3
	STZ650	400 V	3-phase												3,8
NEW SEMISOM 650H RS	SMZ650H	230 V	1-phase	2	1,5	12,2	100 - 300 - 600	11,6 - 9,4 - 6	65	2"1/2	450	91	334	195	23
	SMZ650H+G	230 V	1-phase+float												23,3
	STZ650H	400 V	3-phase												4,4

It can be installed only with guide rail kit

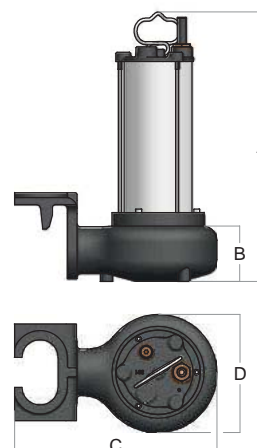
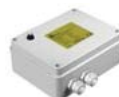


### SUPPLIED WITH

10 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)



## ACCESSORIES

Code	Description
04105044	Guide rail kit Semisom 650 (1"1/4 guide poles not included)



ILLUSTRATION OF AN INSTALLATION WITH GUIDE RAIL KIT

